

MONTHLY NOTES  
OF THE  
**Library Association**  
of the United Kingdom.

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MAY MONTHLY MEETING.

THE seventh Monthly Meeting of the third year of the Association was held at the London Institution on Friday, May 7, 1880, at 8 p.m., Mr. W. H. OVERALL in the chair.

The minutes of the previous meeting having been read and confirmed, the Chairman called on Mr. HENRY WILSON to read his paper entitled

REMARKS ON FACSIMILE REPRODUCTION.

Mr. WILSON said: Modern Science has placed so many ways of multiplying copies at our disposal, that within the last few years a vast number of reproductions of objects of artistic and historical interest have been made; often without sufficient discrimination in the selection of the subject, or the process employed. It therefore concerns librarians and other custodians of rare and valuable objects of interest, not only that they should be able to choose wisely the objects to be copied, but also to judge what processes of reproduction will best suit those objects. Works of art of acknowledged excellence are rare and costly; but precisely also because of their incontestable merit, a knowledge of them should be diffused by means of worthy copies. Every selection of art-work reproduced, will contribute its share in the elevation or debasement of future art and culture. Engravings, etchings, and chalk and pencil drawings of old masters, can now be reproduced with wonderful fidelity, and multiplied with such facility and comparative cheapness that a wise choice of the originals to be copied becomes all the more necessary. In the selection of archaeological subjects for reproduction, the exercise of judgment is no less desirable. Among these, inscriptions and palæographical monuments will occupy an important place, and copies of these will not only serve in spreading a knowledge of the science, but will atone in some degree for the poverty of our provincial libraries and museums in manuscripts—a poverty which is far greater in England than on the Continent. Facsimiles of such subjects prove a great help to the student, and at the same time save the unique originals from wear and tear. Good facsimiles of autographs, too,

are valuable for reference. Facsimiles from a few pages of the earliest incunabula may also be of interest, as showing the mechanical difficulties that the first printers had to overcome, and the progress of their art. But the reproduction of entire printed books in facsimile seems to me a very questionable benefit. To read a classic in its editio princeps may be like drinking old wine, a luxury for which those who are able may be willing to pay. But the attempt to obtain it spuriously by reprinting whole volumes in an unfamiliar type, and often very imperfectly as a facsimile, is generally a failure. Such work as this is a sacrifice of time, talent, and industry which should be far better expended. It seems reasonable to expect that the best facsimiles are to be obtained by the employment of technical means most nearly allied to those used in the production of each original. Hand-work, perhaps, still excels any other method in copying originals executed by other hands, but the cost of such work is often prohibitive, nor can copies be multiplied in this way to any considerable extent. Here are some facsimiles executed by hand. No mechanical process could render the general effect, and even the detail of the originals, nearly so well. This is especially true where painting of any sort is to be copied.

Before the present century, nearly all archæological illustrations were given by copperplate printing, at first rough and often very inaccurate, the workman seeming not yet fully master of his tools and materials; however, they are permanent—a merit which we must deny the photographic illustrations of but a few years ago. But the copperplate was not long in asserting its capabilities in the hands of the best artists, and is still used, though expensive. I know of no better monochromatic reproductions of mediæval illuminated ornament than some of the plates in Dibdin's "Decameron." The engraving alone of a small tail-piece, he tells us in one of his notes, cost £50, and that was before 1817. The late Mr. H. Shaw commended the elasticity of wood as favourable to reproducing ancient illuminated ornament by xylography. His "Art of Illumination" certainly confirms this opinion by some fine examples, engraved with all the delicacy which might be expected from the feminine hands which executed them. Even to some extent they succeeded in rendering by "tints" the colour of the originals. However, such work as this is not only costly and time-taking, but it is often scarcely to be had at all, and the archæologist may too often find himself in the hands of careless, hurried, or unskilful workmen, whose productions will but travesty antiquity. Even the most expensive work lags far behind photography in literal accuracy, as will be easily seen for instance on comparing a plate from Astle, or the "Paléographie Universelle" with the original. Valuable as is the labour of the earlier archæologists, it would have had greater weight had they been able to command the numerous reproducing processes which rival each other at the present day, and the history of which is largely that of lithography and photography.—Mr. WILSON then gave a brief account of the

origin, progress, and principles of chemical printing or lithography, illustrating his remarks by a series of lithographs showing successive improvements, commencing with a proof from a stone which had belonged to Senefelder, the inventor of the art, and adding that in recent years zinc has been found to possess the properties of the lithographic stone, with the advantage of occupying less space, being more portable, and less fragile. The anastatic transfer process, and the mode of making drawings on lithographic transfer paper, were then explained, and examples shown of facsimiles and other drawings done by this useful process, which requires no reversal of the design, and demands little more than a sharp eye and a steady hand, with care not to use any more ink than just necessary.

Mr. WILSON next gave an account of the important steps in early photography, illustrating the subject with proofs made by the early and imperfect processes, and then continued:—Fox Talbot found that paper covered with silver chloride darkened in the daylight, and consequently could be impressed with the picture of flat and partly translucent objects superposed. Herschel found that hyposulphite of soda dissolved the unaltered chloride which had been protected by the opaque parts of the object, but not the darkened silver chloride, and consequently that the pictures might be fixed: this simple plan is still used to obtain a few copies of sketches or plans, etc. This is the ordinary silver print without the “toning,” an operation by which minute particles of gold are precipitated from solution upon the image, and give it the rich purple tone with which we are familiar, together with greater permanency. The permanency of such prints is, however, much contested, prints only ten years old being often faint or yellow like the example shown. Silver has great affinity for sulphur, and traces of this substance are apt to remain from the hyposulphite, and are sure always to prove fatal if not entirely eliminated by careful washing of the prints. In 1830, Daguerre introduced iodide of silver. Bromide of silver was found to be even more sensitive, especially to green and some other colours. The adoption of these haloid salts of silver, together with the treatment of the plate, after exposure in the camera-obscura, with gallic acid, or sulphate of iron, was an immense advance. The last-named substances have the property of determining a change in the portions of the silver salt which have been predisposed to that change, by exposure to light, thus evoking into visibility the previously latent image. Niépce de St. Victor substituted glass for paper, retaining the silver salt in a thin coating of albumen. Instead of albumen, Archer adopted collodion, an adhesive, limpid, and very volatile solution of cotton, which, poured out over glass, rapidly dries, leaving a fine transparent substratum for the image. This image is of course negative; the strongest lights producing the greatest effect, the light and shade of the model are exactly reversed. “*Candida de nigris et de candentibus atra.*” The negative serves as a matrix from which copies can be multiplied by exposing paper under it to the light.

The collodion film is nowadays often removed from the glass, and mounted on gelatine. You see how light and pliant this example is; not only is it not brittle like a glass plate, but the gelatine is so thin, that prints can be made from either side without perceptible loss of sharpness, and thus reversed pictures needed for transfer to stone, metal, or wood can be easily obtained.

Let me here mention two other processes which rather belong to photography than photo-mechanical multiplication. Among the numerous substances sensible to light, one of the most important is potassic bichromate. Added to gelatine, and exposed to daylight, it converts the gelatine into a kind of insoluble leather, while the unexposed portions remain as before, soluble in warm water. This was discovered by Talbot, in 1852. Poitevin mixed finely ground pigments with the sensitized gelatine, and coated paper with the mixture; the result, after exposure and development in warm water, was an image in the insoluble pigment, greatly superior to the silver print. Boaun, of Dornach in Alsace, made large numbers of facsimiles of manuscripts in this carbon-photography, so called because the pigment first used was finely subdivided carbon.

Here also let me introduce to your notice a new mode of photography not yet so well known as it deserves. It is called the platinotype, and was invented by Mr. Willis, who found that sub-oxalate of iron in a hot solution of potassic oxalate precipitated metallic platinum from salts of that metal; it had long been known that oxalate of iron was reduced to the suboxalate by light.

Here are some pale yellow prints on paper, which has been coated with iron oxalate and a salt of platinum. The pictures are so faint as to be hardly visible; the brownish grey parts are those where the light has reduced the light from the ferric to the ferrous salt. I draw a print over this hot solution of potassic oxalate, and you see the picture comes out in full, vigorous black tones. The platinum is precipitated upon the parts where the light has acted. This newest photographic improvement is one of the most easy, rapid, and permanent processes. The tone suits engravings. It is, however, very often the case that the contrasts in the negative lack the vigour of those in the original; this is especially the case when the models are in black and white, and are without half tones (or uniform tints not produced by lines or dots), and are so near the camera that the light reflected from them is sensibly diminished. In these cases, strengthening of the image is resorted to—that is, rendering the *lights* more opaque to chemical rays. This may be done by treating the negative with various solutions, so as to colour the lights black or scarlet, or by thickening them with a further addition of silver, which readily precipitates upon them from solution. The same can be effected as recently proposed with lead solutions. This plan of heaping up metallic deposit is, however, not free from the danger of lateral extension, and consequent encroachment upon the transparent contours of the image, so as even to entirely choke up the finer lines. Still it may be done with care, and it is the basis of one of the finest processes of

mechanical reproduction. Scamoni, the heliographer of the Russian Government, succeeded in obtaining directly on the negative, a relief almost equal to the depth of the incised lines in a copper-plate engraving, and then took electrotypes from such negatives. These electrotypes served as copperplates for printing from. The process has been much used for the production of bank-notes, reductions of maps, &c. Its value as a mode of art reproduction is of the highest, as you may judge by these beautiful specimens, for which I am indebted to the kindness of the Typographic Etching Company, who do not hesitate to display their own productions by the side of them. Here is a reproduction of a Rembrandt etching executed by this Company. I am glad to be able to shew you a facsimile of this sort by an English house, which may fairly vie with the better known productions of Paris firms, of which specimens are also on the table. In considering Scamoni's plan of obtaining electrotypes directly from the negative, we have come by a sort of natural transition from photography proper to the photo-mechanical processes, that is processes in which the printing is not chemical as in photography, but where the block or plate from which impressions are taken is obtained by photography.—Mr. WILSON then gave a description of some of the modes of photographic etching, illustrating his remarks by plates and proofs, and continued:—It is often difficult to tell whether these proofs were produced by electrotype or by etching, and there is naturally a tendency on the part of inventors and workers of successful processes to keep the details of their operations secret, as patents of this sort are peculiarly hard to protect.

In 1854, Pretsch, an Austrian, obtained plates by exposing a film of bichromated gelatine beneath a negative, such as the chromo-gelatine film you have seen, and developed in hot water which dissolves the unaffected gelatine, and leaves what has been acted on by light through the transparent parts of the picture remaining in relief; this is dusted with graphite, and an electrotype procured from it, which serves as the printing-plate.

Here is a fine volume of facsimiles of departmental archives, published by the Ministry of the Interior, in connection with the International Exhibition, 1878: they are by Dujardin's *héliogravure*. You are almost ready to pick up some of these charters and fold them in the well-worn creases. Here also is a large map by the same house, and some facsimiles of more artistic subjects. Writing of Dujardin's reproductions of Boucher's drawings and etchings, the Marquis de Chenevières says in the *Gazette des Beaux-Arts*, *Janvier*, 1880: "Ce sont les seules que nous regardons avec confiance, les seules qui puissent faire apprécier les qualités et les défauts du maître."

Numerous and excellent as are the different ways of printing from metal plates with the ink contained in the incised portions, they have not the advantage of wood-engraving, where the blocks are in high relief, and can be printed with ordinary letterpress. It has accordingly been sought to imitate wood-engraving by pro-

ducing blocks in high relief. As in stereotyping from engraved wood blocks, gypsum casts are taken—not, indeed, from an engraved block, but from the gelatine image. The unaltered parts which the light has not reached are not dissolved in warm water, but the impression is immersed in cold water. The yellow chromate is dissolved out, and the unaltered parts swell, the parts rendered insoluble by light remaining depressed. Considerable relief thus results, from which gypsum casts can be made, and from these again casts in type metal, wax, sulphur, or other substances, can be obtained, or electrotypes, from which to print as wood blocks with the letterpress. Gillot, of Paris, has carried this relief-printing to great perfection, as you will see from these specimens; and on account of the great convenience of printing in the typographic press, and by any printer, its use is gaining ground. Here is a block and its impression. The process is useful in reducing copies to a smaller size. Here is another block of Mr. Dallas's; it shows that where there are large blank spaces, clearing with a scraper is necessary to obtain sufficient depth, or the ink would be caught and transferred to paper, as in this proof, pulled before this scraping. Here is a block by the Typographic Etching Company, for typographic printing, and its print. Such blocks are sometimes electrotypes from etched zinc. Such reproductions are good substitutes for wood in many cases. Mr. Dallas has recently applied the anastatic process in this way: a tracing or drawing, made as for a lithograph, can be turned into a metal relief for typographic printing. This would be an inexpensive and easy plan, for instance, for reproducing the facsimiles of signatures given in picture catalogues, &c.

In the processes hitherto mentioned, there has been no attempt to give homogeneous half-tones. The image consists of black and white, half-tones being got by numbers of fine lines or points near each other. But in 1865, Mr. Woodbury, in England, invented a way of doing this. A gelatine relief, when dry, is so strong and hard as to impart an impression on lead under great pressure. This lead is used as the printing-plate. The ink is not fat, but gelatinous and semi-transparent; and as its thickness varies with the depth of the depressions on the metal plate, the gradation of tint is almost as perfect as in a photograph. It is a suitable process for illustrating books where great numbers of copies are required; very perfect imitations of photographs are obtained by it, which have the merit of being in permanent pigment. The glossy surface, partly a result of the nature of the ink, is popular, but scarcely artistic. Here are some recent examples where this gloss is reduced to a minimum. I have known an instance, but only one, of the ink peeling off the paper, from an impression made when the process was younger.

Here is a reproduction of Goupil's from an oil painting: it seems printed like a copperplate. Some say that the impression is made upon the plate in a way analogous to that of the Woodbury-type lead plate. But M. Rousselon, the manager of the technical



department, is sagaciously retentive about all such secrets. Here are also some specimens of a half-tone process by Dallas, intended for the typographic press, but it may be doubted whether such blocks will ever prove successful in the hands of the ordinary printer.

Here is another process giving half-tone very successfully; it has lately come into extensive use. Poitevin found that if an exposed film of bichromate and gelatine, such as the one you have seen, is damped with a sponge, and then gently rolled with a printer's inking roller, the printer's ink adheres only to the parts where the light has rendered the gelatine insoluble. Here, then, is a simple way of multiplying impressions mechanically, as long as the bichromate film holds good; by inking the image, and then pressing on it paper to which in turn the ink is transferred. This process is known as Albert-type, from Albert of Munich, who was the first to bring it up to practical efficiency. It is also known as the autotype, mechanical, or collotype process, and also as *Licht-druck*. The facsimiles of the Palæographical Society are produced in this way from original negatives by Mr. Prætorius, to whose kindness I am indebted for these and many of the examples before you. As you will easily understand, instead of taking these *Licht-druck* impressions upon paper, stone or zinc may be substituted, and thus the photographic image transferred to stone—that is photo-lithography; but half-tones are very unsatisfactory on zinc or stone. Such impressions are also printed on woodblocks for engraving. Reproductions in different colours are either very costly or very unsatisfactory. We may point to the reproductions of the Arundel Society, the facsimiles of ancient French MSS. undertaken by Comte Bastard, the pages of the "Paléographie Universelle," and some recent reproductions of water-colour drawings. Chromo-lithography, or chromo-lithography seconded by hand, is the all but universal process for such productions. The processes we have passed in review have nearly all been closely connected with photography, and to colours photography is not kind. Here is a "photo-chromo-lithographic" facsimile by Mr. Prætorius, in which the area and position of the respective colours have been obtained from photographic negatives. Something analogous to this has been done in pigment photography by Ducos, du Hauron, and M. Cros, by combining separate prints of different colours, but the results have been pronounced hard and unnatural, and are little known beyond photographic circles. A plan which has succeeded better is to superpose a pigment or *Licht-druck* picture upon colours previously printed by chromo-lithography.

In spite of occasional announcements by enthusiasts or charlatans, the question of photography in natural colours seems to be not much further advanced than it was years ago. Niepce obtained coloured images on subchloride of silver, so did Becquerel, Zenker, Chastaing, and others. Abney obtained coloured images of the solar spectrum, and expressed confidence that a fixative for such pictures would be found. Eder, in his recent contribution to the subject, scarcely encourages such a conclusion.

There is another important matter which should not be omitted, namely, the regulations under which photography of rare, often fragile and easily injured, objects should be allowed. They should of course be such as to combine the least handling of the objects with the most worthy copies of them. In some museums, and in the Louvre sculpture galleries, only dry-plate photographs are allowed to the general photographer—at least, this was so until lately. At the Bibliothèque Nationale very great restriction, if not total prohibition, was placed upon the photography of MSS. some time ago. In any case, supervision by officials should be exercised over all kinds of photography. Copying requires the most motionless floor. It is a good plan to photograph books, &c., on a horizontal stand, as they require in this position less fixing and therefore less handling, and are also better lighted. This may be done by placing a very fine silver mirror at an angle of  $45^{\circ}$  to the axis of the lens. This of course gives unreversed negatives, which, however, may easily be reversed in different ways.

In conclusion, the processes of mechanical reproduction and multiplication have reached such excellence that it is worth considering whether they may not be more widely used than at present in popularising really artistic works and counteracting the influence of the numerous coarse chromo-lithographs which tended to the debasement and not the elevation of the public taste.

DISCUSSION.—Mr. OVERALL exhibited a copy of Aggas's map of London, executed in facsimile by Mr. E. J. Francis, and a History of the Charters of the Leathersellers' Company, with facsimiles of the charters by the same hand.—In reply to questions, Mr. WILSON said, with regard to *Photogravure*, that he did not think that Dujardin's copies were from the glass itself. Dujardin took care to obtain good copies of the engravings and reproduced them very exactly, even to the burr. As to wood blocks, water injures the fibre of the wood; therefore, some use ether or alcohol. One of the commonest methods is an Albert-type transferred to the wood. Illustrated charters such as those produced by Mr. Overall, might now be reproduced, as to the text, by photography, and the coloured portions by hand. For colours, hand-work had a charm not attainable by mechanical processes.

A vote of thanks to Mr. WILSON for his interesting paper, and the valuable specimens exhibited by him, was then carried unanimously.

Mr. OVERALL produced some specimens of morocco cloth for binding, which had been sent to him by Mr. Archibald Winterbottom, and some conversation on binding ensued.

Two new members were proposed, and will be balloted for at the next meeting.

The further consideration of the resolution as to Parish Registers was adjourned to next meeting.

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